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Song

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(54) **TEMPERATURE AND PROCESS
INDEPENDENT CMOS CIRCUIT**

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(57) **ABSTRACT**

A analog function is constructed based on CMOS (complimentary metal-oxide semiconductor) technology. It is capable of providing an output voltage, which is proportional to the product of two input voltages. This analog function is insensitive to temperature and process variations by using a PMOS device as a load device for an NMOS analog function. The PMOS characteristics are used cancel or balance the variations in process and temperature in the other NMOS devices. To further control the function of the loading devices a loading device controller within the analog function compensates for changes in voltage level of the output signal due to variations in temperature and variations in manufacturing process within the function core circuit. The loading device controller has a loading control voltage terminal to provide the loading control voltage to provide temperature and process compensating biasing voltage for the load devices.

44 Claims, 5 Drawing Sheets

